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Differential Relationships of Childhood Abuse and Neglect Subtypes to PTSD Symptom Clusters Among Adolescent Inpatients

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This article investigates whether childhood abuse and neglect subtypes (i.e., physical, sexual, and emotional abuse, and physical and emotional neglect) differentially predict the severity of individual posttraumatic stress disorder (PTSD) symptom clusters and overall posttraumatic stress. Eighty-nine patients admitted to the short-term adolescent treatment unit of a psychiatric hospital completed a battery of psychological assessments. Findings of multiple regression analyses showed that emotional and sexual abuse rather than physical abuse, emotional neglect, or physical neglect is related to individual symptom cluster severity and overall posttraumatic stress. Results suggested that a greater level of specificity is necessary when assessing child abuse and posttraumatic stress because each level provides more specific information about how to intervene to reduce the risk of negative outcomes.

Childhood maltreatment, defined as physical, sexual, or emotional abuse, has been identified in a prospective cohort study as a traumatic event that contributes to the development of posttraumatic stress disorder (PTSD) in adulthood (Widom, 1999). Prevalence rates of child maltreatment at any early age and rates of PTSD among adolescents who have witnessed interpersonal violence in childhood are high. For example, one study found that by the time kindergartners reached adolescence, almost half had experienced maltreatment in the form of physical assault or sexual abuse (Giaconia et al., 1994). In addition, a 2003 national survey found that among adolescents who had experienced or witnessed interpersonal violence, the 6-month prevalence of PTSD was high: 3.7% for boys and 6.3% for girls (Kilpatrick et al., 2003).

Rates of maltreatment histories and PTSD are considerably higher when the foci of investigations are clinical subgroups of children and adolescents. An estimated one-fourth of youth treated in outpatient clinics meet full diagnostic criteria for PTSD, and an additional one-third meet subthreshold criteria (Silva et al., 2000). In studies of adolescent inpatients in psychiatric facilities, 23% to 32% met symptom criteria for PTSD (Lipschitz, Grilo, Fehon, McGlashan, & Southwick, 2000; Lipschitz,

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Winegar, Hartnick, Foote, & Southwick, 1999) and many had a history of multiple traumas, including physical, sexual, and psychological abuse, and witnessing or experiencing community violence (Fehon, Grilo, & Lipschitz, 2001a; Lipschitz, Winegar, et al., 1999). Moreover, adolescent inpatients who have PTSD have higher rates of cooccurring disorders in general, most commonly disruptive behavior, depressive and other anxiety disorders, and higher rates of suicidal ideation and attempted suicide when compared to patients who do not have PTSD (Lipschitz, Winegar, et al., 1999). The prevalence of childhood trauma, PTSD, and PTSD with comorbid disorders in studies of psychiatric inpatient samples of adolescents highlights the importance of examining these relationships among hospitalized youth.

Moreover, according to the United States Surgeon General's Report on Mental Health (U.S. Department of Health and Human Services, 1999), understanding the relative strength of different risk factors for disorders is important for the development of more targeted prevention and intervention strategies. Examining how particular abuse experiences relate to specific PTSD symptom clusters may lead to a clearer understanding of how child maltreatment contributes to the development of particular posttraumatic stress experiences among adolescents in inpatient treatment, which may in turn help to inform the development of preventative (Runyon, Faust, & Orvaschel, 2002) and treatment interventions centered on the experiences of maltreatment and posttraumatic stress.

Research has demonstrated the predictive utility of examining childhood maltreatment at a more specific level, for example, by the subtypes of physical, sexual, and emotional abuse and emotional and physical neglect, to determine the strength of the relationships between individual subtypes and PTSD (Ackerman, Newton, McPherson, Jones, & Dykman, 1998; Arias & Pape, 1999; Deblinger, McLeer, Atkins, Ralphe, & Foa, 1989; O'Leary, 1999; Street & Arias, 2001; Widom, 1999). Childhood physical abuse and sexual abuse have positive, significant, and differential relationships to PTSD (Ackerman et al., 1998). Investigations among youth who have experienced both sexual and physical abuse have found that sexual abuse is a relatively stronger predictor of PTSD symptoms than physical abuse (Deblinger et al., 1989; Widom, 1999). Moreover, in their study of child and young adolescent inpatients, Deblinger and colleagues found that 21% of sexually abused children and 7% of physically abused children met diagnostic criteria for PTSD. These studies show that the relative strengths of risk factors such as subtype of abuse do have differential relationships to PTSD.

Emerging evidence also suggests that the investigation of individual PTSD symptom clusters (i.e., reexperiencing, avoidance and numbing, and arousal symptom clusters) may provide more precise information about how abuse contributes to particular aspects of posttraumatic stress (Orcutt, Erickson, & Wolfe, 2002; Stewart, Conrod, Pihl, & Dongier, 1999). Results of a youth inpatient sample (Deblinger et al., 1989) show that sexually abused children evidenced more reexperiencing and hyperarousal symptoms than physically abused children. In addition, on the basis of a review of a decade's worth of research on child and adolescent abuse and neglect, Kaplan, Pelcovitz, and Labruna (1999) posit that emotional maltreatment, in particular, has a stronger impact on psychological functioning than other forms of maltreatment such as physical abuse. This finding is consistent with research on adult emotional and psychological abuse, which indicates that emotional abuse experiences alone significantly predict posttraumatic stress symptoms (Street & Arias, 2001). Taken together, these results support the need to examine PTSD at the symptom cluster level, particularly among adolescents.

PURPOSE

The purposes of this study were to examine subtypes of child abuse and neglect and to document their relationships to individual posttraumatic stress symptom clusters and overall posttraumatic stress among a sample of adolescent inpatients. This study was not necessarily focused on posttraumatic stress that meets diagnostic levels; rather, it examined the level of symptom severity. This cohort is the same as that described in previous reports (Fehon et al., 2001a; Fehon, Grilo, & Lipschitz, 2001b; Lipschitz

et al., 2000). Earlier studies with this sample have focused on issues such as the relationship between posttraumatic stress and gender, substance use, and community violence exposure. These prior studies have not examined specific subtypes of abuse as unique contributors to the experience of individual symptom clusters. Further, the present study expands upon previous trauma research by examining the relative relationships of subtypes of abuse to subtypes of posttraumatic stress (i.e., symptom clusters) in a sample of male and female adolescent inpatients. These findings have implications for the development of prevention and intervention programs targeted at reducing negative behavioral health outcomes of abuse and neglect, namely, posttraumatic stress. Furthermore, given that traumatic experiences among adolescent inpatients are common and may contribute to the need for admission but may not always be identified upon admission or during hospitalization, results have the potential to reduce the need for hospitalization, by focusing on specific clusters, and to decrease the length of hospital stays.

On the basis of a review of empirical evidence, we hypothesized that (1) each abuse subtype predicts overall PTSD symptom severity and (2) abuse and neglect subtypes differentially predict the severity of reexperiencing, avoidance and numbing, and arousal symptom clusters and overall posttraumatic stress.

METHOD

Participants

Participants for this study were 89 patients admitted to the short-term adolescent treatment unit of a private, not-for-profit psychiatric teaching hospital in an urban setting. Patients were hospitalized at this facility because of a variety of serious psychiatric and behavioral problems, including dangerousness to self or others or acute suicidality. Patients were admitted because of their need for inpatient-level intervention and no other selection processes were used.

The sample of patients was nearly consecutive. However, patients who were unable to complete the self-report assessments—for example, as the result of severe psychiatric impairment (e.g., acute psychosis, mania, substance withdrawal), cognitive impairment (e.g., borderline mental retardation or suspected difficulties with reading or with the English language), or rapid discharge or transfer to different facilities—are not represented in the sample; the number of these patients is not known definitely but was relatively small. Information from 41 patients was not included in this investigation because of missing data. The final study group of 89 patients was between the ages of 12 and 18 ($M = 16$ years). Fifty-two (58%) were female. Sixty-four (72%) were white, non-Hispanic; 15 (17%) were Hispanic; and 10 (11%) were African American.

Procedures

At the time of admission, all patients and their parents (or legal guardians) provided written informed consent for evaluation. Patients were administered a standard battery of self-report psychological assessments as part of their hospital evaluation. The assessments, which served to provide clinical data to the treatment team working with each patient, were computer administered and scored. These assessments were conducted as part of an overall multimodal evaluation procedure, completed 1 to 4 days post admission. The assessment battery included 11 measures of childhood trauma and maltreatment, psychopathology (e.g., internalizing and externalizing variables such as dissociation and depression), and substance abuse; only the measures that assess childhood abuse, exposure to violence, and posttraumatic stress are included in the present analysis.

Measures

Childhood Trauma Questionnaire. The Childhood Trauma Questionnaire (CTQ) (Bernstein & Fink, 1998) is a 28-item, self-report inventory designed to assess the severity of three domains of childhood abuse (sexual, physical, and emotional) and two domains of childhood neglect (physical and emotional). To anchor respondents to their experiences as youth, 24 of the 28 items began with the stem "When I was growing up." Operational definitions

for each of the five empirically derived maltreatment domains have been published (Bernstein, Ahluvalia, Pogge, & Handelsman, 1997) and are based on the commission of behaviors by an adult or older person to a child/minor (under the age of 18). Physical abuse was defined as the minor's experience of an assault by an adult caretaker that poses a risk of injury or bodily harm such as being hit with an object such as a belt or being hit so hard that the blow created bruises. Sexual abuse was defined as sexual contact between a minor and an older person or adult, such as being molested or sexually abused. Emotional abuse was defined as the minor's experience of an adult's verbal attack on the minor's sense of self-worth or humiliating behavior such as being called derogatory names. Physical neglect was defined as the minor's experience of unmet basic physical needs such as those for food, clothing, shelter, or safety, as a result of failure on the part of the caretaker. Emotional neglect was defined as the minor's experience of unmet basic psychological or emotional needs, such as need for love, belonging, and support, as a result of failure of the caretaker.

A principal components analysis of the CTQ in an adolescent psychiatric population yielded five rotated factors (emotional abuse, emotional neglect, sexual abuse, physical abuse, and physical neglect) that all had moderate to high internal consistency with Cronbach alpha coefficients ranging from .81 to .95 (Bernstein et al., 1997). Cutoff scores determined for four categories of childhood trauma (i.e., none to minimal, low to moderate, moderate to severe, and severe to extreme) have been shown to have excellent sensitivity and specificity in correctly classifying cases of abuse and neglect in adolescent psychiatric patients (Bernstein et al., 1997). Items are rated on a 5-point Likert-type scale with responses ranging from *never true* (1) to *very often true* (5). Continuous variables for each of the five domains were created by summing the five items for each of the five scales; they are used in the present analyses. These categories are not mutually exclusive. Over half of the sample (57%) experienced childhood physical abuse, 34% were victims of childhood sexual abuse, 91% experienced childhood emotional abuse, and 94% and 100%, respectively, experienced physical and emotional neglect. Also, as noted by Fehon and colleagues (2001a), over half (52%) of the sample experienced community violence and 53% observed family violence.

Child's Exposure to Violence Checklist. The Child's Exposure to Violence Checklist (CEVC) (Amaya-Jackson, Newman, & Lipschitz, 2000) is a 33-item self-report checklist adapted from Richter's and Martinez's (Richter & Martinez, 1990) "Things I've Seen and Heard." The checklist assesses levels of violence witnessed and other victimization in youth and contains examples of interpersonal violence in the home and community. Responses are coded on a 5-point Likert-type scale ranging from *never* to *more than 10 times.* The checklist assesses levels of witnessing violence and other victimization in youth and contains items of various types of violence that is experienced, witnessed, or heard about, including items involving being a victim of physical and/or sexual assault. Six categories of self-reported violence exposure are identified on the basis of patients' responses to individual CEVC items: (1) physical assault victim (PAV), (2) physical assault perpetrator (PAP), (3) sexual assault victim (SAV), (4) sexual assault perpetrator (SAP), (5) family violence witness (FVW), and (6) community violence witness (CVW).

Little psychometric information is available about this survey. Consequently, a subgroup of the investigators analyzed the internal consistency and test-retest reliability of the CECV and found coefficient alphas ranging from .51 to .90 for each violence category (PAV = .73, PAP = .73, SAV = .83, FVW = .51, CVW = .90). One-week test-retest reliabilities, using a subgroup of 31 inpatients, also were determined. Kappa coefficients for agreement ranged from .47 to .85 for the different categories of violence (PAV = .78, PAP = .56, SAV = .83, SAP = .47, FVW = .78, CVW = .81) (Lipschitz, Grilo, & Fehon, 2001). For the purposes of this study, CEVC subscales and variables were not used in the analyses. Rather, the CEVC was used to evaluate violence exposure and to identify the most difficult or upsetting event the patient experienced that later would be the referent event for the PTSD checklist.

Child and Adolescent Posttraumatic Stress Checklist (PTSD Checklist). The Child and Adolescent PTSD Checklist (Amaya-Jackson et al., 2000) is a 28-item scale that asks participants to rate the degree to which each of the 17 symptom areas of PTSD (American Psychiatric Association, 1994) were present during the past month. This scale is derived from the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (DSM-IV), criteria and uses a 4-point Likert-type scale to establish symptom severity. The checklist can be used to classify youth as exceeding the thresholds for each of the three symptom clusters (i.e., symptoms present *some of the time*, *most of the time*, or *all of the time*). The PTSD Checklist yields a continuous, overall score and three continuous composite scores reflecting the primary classes of PTSD symptoms (i.e., reexperiencing—eight items; avoidance and numbing—nine items; arousal—eight items). Diagnostic variables were not used in the analyses. Rather, continuous scores that reflect overall and symptom cluster severity were analyzed in the regression equations. Patients were asked to respond to the PTSD Checklist on the basis of the most difficult or upsetting event endorsed on the CEVC; in response to that event, over three-fourths (78%) endorsed reexperiencing symptoms, 90% reported avoidance and numbing symptoms, and 83% experienced arousal symptoms. The mean rating for overall symptom severity was 24.55 with a standard deviation of 18.55. Concurrent validity of the PTSD Checklist has been established by comparing diagnoses generated by the checklist to those obtained on a semistructured interview for PTSD, the Clinician Administered PTSD Scale for Children and Adolescents (CAPS-CA; Newman & Ribbe, 1996). The mean intensity rating across the CAPS-CA items showed a correlation of .64 with the Child and Adolescent PTSD Checklist items (Newman & Ribbe, 1996).

Data Analysis

Study variables were assessed for assumptions of normality. Tabachnick and Fidell (2001) described techniques for addressing skewed variables and recommend transformations to normalize distributions. These methods are preferable to dichotomizing variables because dichotomizing reduces the informative value. As could be expected, some of the CTQ subscale scores (i.e., physical abuse, sexual abuse, and physical neglect) were modestly positively skewed; therefore, inverse transformations were performed on all of the CTQ subscales to maintain all variables on the same metric, producing a normal distribution for each.

RESULTS

Correlations

Means, standard deviations, and Pearson correlations for each abuse and neglect subtype, symptom cluster, and overall score appear in Table 1. The bivariate correlations revealed that physical, emotional, and sexual abuse and physical neglect were significantly associated with overall posttraumatic stress and each of the three symptom clusters. It is important to note that the magnitude of the significant correlations differed: Emotional abuse showed a high to moderate degree of association with each symptom cluster and overall posttraumatic stress; physical abuse, sexual abuse, and physical neglect were moderately related to overall PTSD and symptom clusters. None of the associations between emotional neglect and the posttraumatic stress scores were significant.

Multiple Regression

Multiple regression analyses were performed to ascertain the independent and joint contributions of a history of abuse or neglect to the prediction of individual symptom clusters and overall posttraumatic stress severity. Seven predictor variables (age, gender, child sexual abuse, physical abuse, emotional abuse, physical neglect, and emotional neglect) were included in an overall regression analysis to predict symptom clusters and overall symptoms. By using hierarchical multiple regression, symptom clusters were regressed in five separate equations on the linear combination of child abuse and neglect subtypes. Age and gender were entered in the first step of each regression equation as a

Table 1. Means, Standard Deviations, and Intercorrelations of Study Variables ($N = 89$)

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
Independent Variables													
Gender	—	—	—										
Age	16.02	1.44		—									
Child sexual abuse	7.64	5.12	.06	−.09	—								
Child physical abuse	8.38	4.83	.05	−.24*	.55**	—							
Child emotional abuse	12.22	5.40	.23*	−.67	.30**	.56**	—						
Child physical neglect	8.03	2.89	−.07	−.23*	.33**	.51**	.49**	—					
Child emotional neglect	8.31	2.80	.13	.00	−.11	−.04	.32**	.23**	—				
Dependent Variables													
Reexperiencing cluster	7.12	6.77	.22*	−.19	.39**	.43**	.49**	.32**	.06	—			
Avoidance cluster	9.18	6.71	.12	−.20	.32**	.41**	.51**	.30**	−.01	.78**	—		
Arousal cluster	9.16	7.40	.19	−.22*	.34**	.44**	.51**	.33**	−.02	.77**	.85**	—	
Total PTSD	24.55	18.55	.18	−.22*	.38**	.45**	.54**	.35**	.02	.91**	.94**	.94**	—

Note. Means and standard deviations are for untransformed scores. Correlations are based on transformed scores. PTSD = posttraumatic stress disorder.
$^{*}p < .05$. $^{**}p < .01$.

Table 2. Hierarchical Regression Models Predicting Posttraumatic Stress Disorder Symptom Outcomes ($N = 89$)

	Reexperiencing		Avoidance and numbing		Arousal		Overall PTSD	
Steps	β	$R^2\Delta$	β	$R^2\Delta$	β	$R^2\Delta$	β	$R^2\Delta$
Demographics		.083		.053		.082		.081
Female gender	.217*		.113		.183†		.178†	
Age	−.188†		−.201†		−.218*		−.220*	
Abuse/neglect		.262		.279		.276		.314
Child sexual abuse	.217*		.134		.127		.176†	
Child physical abuse	.054		.017		.049		.033	
Child emotional abuse	.358**		.486***		.432**		.463***	
Child physical neglect	.039		.012		.059		.045	
Child emotional neglect	−.052		−.150		−.166		−.132	
F (7, 81)		6.105***		5.775***		6.435***		7.540***
R^2		.345		.333		.357		.395
Adjusted R^2		.289		.275		.302		.342

$^{\dagger}p < .10$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

covariate. Physical abuse, emotional abuse, sexual abuse, physical neglect, and emotional neglect were then entered as a block. Table 2 summarizes the findings from the hierarchical regression analyses; standardized beta weights are reported for the final model. As shown in the table, the seven variables jointly accounted for 29% of the variance in the reexperiencing cluster, F (7, 81) = 6.11, $p < .001$; 28% of the variance in the avoidance and numbing cluster, F (7, 81) = 5.78, $p < .001$; 30% of the variance in the arousal cluster, F (7, 81) = 6.44, $p < .001$; and 34% of the variance in overall posttraumatic stress, F (7, 81) = 7.54, $p < .001$.

Beta weights were then reviewed to assess the relative importance of the seven variables in the prediction of symptom clusters. Only emotional and sexual abuse displayed significant beta weights. When entered in the same equation with the other predictors, emotional abuse maintained the greatest influence on each of the symptom clusters and overall posttraumatic stress. Sexual and emotional abuse independently predicted the severity of the reexperiencing

cluster ($\beta = .22$, $p < .05$, and $\beta = .36$ $p < .01$, respectively). Only emotional abuse predicted the severity of the avoidance and numbing cluster ($\beta = .49$, $p < .001$), the arousal cluster ($\beta = .43$, $p < .01$), and overall posttraumatic stress ($\beta = .46$, $p < .001$). The prediction of overall posttraumatic stress severity by sexual abuse approached significance ($p < .10$). Neither childhood physical abuse, physical neglect, nor emotional neglect significantly predicted individual symptom clusters or overall posttraumatic stress. Finally, gender significantly predicted the severity of reexperiencing symptoms ($\beta = .22$), and its relationship to arousal symptoms ($p < .10$) and overall posttraumatic stress ($p < .10$) severity approached significance.

DISCUSSION

Given the prevalence of childhood abuse and neglect and associated symptoms of PTSD among psychiatrically disturbed adolescents, and the relevance of these problems to treatment planning, this is an important area of investigation (Fehon et al., 2001b; Lipschitz, Bernstein, Winegar, & Southwick, 1999; Lipschitz, Winegar, et al., 1999). Studies of this kind have the potential to help clinicians and researchers identify factors that contribute uniquely to the prediction of posttraumatic stress symptoms and symptom severity and thus target areas for effective intervention. This study yields several main findings worthy of specific review.

First, associations between abuse and neglect subtypes suggest that the adolescents in this sample who reported a history of abuse did so by endorsing a broad range of traumas. This finding supports previous research findings (Fehon et al., 2001b; Lipschitz, Bernstein, et al., 1999; Lipschitz, Winegar, et al., 1999) that childhood trauma is a prevalent problem among adolescent inpatients and that victimization by multiple forms of abuse or neglect is likely. Both physical neglect and emotional neglect were prevalent for almost the entire sample. However, among the five subtypes of maltreatment, it was emotional abuse that was most often experienced. One explanation for the higher rate of emotional abuse compared to that of the other forms of abuse and neglect is that perhaps adolescents reported emotional abuse perpetrated by family *and* peers, which might include experiences of bullying. An alternative explanation for the high frequency of emotional abuse is that for some patients, emotional abuse may be more likely to cut across multiple forms of maltreatment; for most patients, experiences of emotional abuse and of other forms were not mutually exclusive and, therefore, emotional abuse cooccurred with other forms of abuse and neglect. More specifically, for example, name calling and threats of harm may accompany physical and/or sexual abuse.

As expected, the severity of individual PTSD symptom clusters was correlated with several forms of childhood abuse and neglect. Specifically, the severity of symptom clusters was associated with a self-reported history of sexual abuse, physical abuse, emotional abuse, and physical neglect, and emotional abuse evidenced the strongest relationships. Individual PTSD symptoms clusters were not associated with a history of emotional neglect. These findings are consistent with the core diagnostic criteria for PTSD as outlined by DSM-IV (American Psychiatric Association, 1994) that require an event to be experienced subjectively as a threat to oneself or others and that cause a person to feel helpless or terrified. These traumatic responses often are perceived to be associated with physical and sexual abuse but less often so with emotional abuse—although the latter has been emphasized more recently (Street & Arias, 2001).

Finally, regarding the association of PTSD symptom clusters to age and gender, participants' younger age at the time of assessment was associated with a history of physical abuse and neglect, self-reported PTSD arousal symptoms, and overall PTSD. Also, girls were more likely than boys to report a history of emotional abuse. One potential hypothesis about the relationship of PTSD arousal symptoms to age is that younger adolescents may have less well-developed strategies to cope with the anxiety-inducing aspects of these experiences. The negative relationship between age and higher levels of physical abuse may be related to the amount of time younger children spend under the supervision of, or in the presence of, adults when compared to older, more independent adolescents. Or, perhaps, younger children may be more vulnerable to

physical abuse as a consequence of a lesser ability to defend themselves physically.

When we move beyond correlations to examine the unique contributions of each abuse and neglect subtype to posttraumatic stress, it is emotional abuse and sexual abuse rather than physical abuse, emotional neglect, or physical neglect that significantly relate to individual symptom cluster severity and overall posttraumatic stress. The severity of each symptom cluster was predicted by emotional abuse, and one symptom cluster also was predicted by sexual abuse; reexperiencing, avoidance and numbing, and arousal all were predicted by emotional abuse; reexperiencing was predicted by sexual abuse. These findings are consistent with findings of Kaplan and colleagues (1999): that emotional maltreatment had the strongest impact on psychological functioning when compared to other forms of abuse and neglect. The findings of differential relationships between various forms of maltreatment and the symptomatic expression of PTSD is consistent with emerging literature that there is predictive utility in examining PTSD symptom clusters, in addition to and separately from, the diagnosis of PTSD, and that subtypes of abuse (Basile, Arias, Desai, & Thompson, 2004) and neglect differentially relate to outcomes.

Controlling for age, gender, and all other types of abuse and neglect, emotional abuse emerged as the only significant predictor of the severity of each symptom cluster and overall PTSD. This finding is both surprising and troubling because research on the detrimental effects of emotional abuse is only in its infancy. One explanation for this relationship is that emotional abuse may be conversely related to social support, which has been shown to have an impact on posttraumatic stress (Brewin & Holmes, 2003). Conceivably, if family members are emotionally abusive toward the adolescent, the level of family support provided to the patient may be low. Therefore, among adolescent inpatients, it might be that levels of family support are different enough from those of other populations of adolescents previously studied to affect the strength found between emotional abuse and reexperiencing, avoidance and numbing, and arousal symptoms and overall posttraumatic stress symptoms severity. Alternatively, emotional abuse, which occurs with greater frequency than other forms of maltreatment, may instill greater levels of fear in youth compared to the other forms of abuse that could, by definition of PTSD, contribute to symptoms. For example, emotional abuse might take the form of a threat or might be coercive in nature and, therefore, youth might fear revictimization, retribution, harm to others, or the potential for disclosure of their victimization, as in the case of sexual abuse. Another possibility is that emotional abuse may simply be more psychologically harmful than other forms of abuse perhaps because of its relationship to shame (Sullivan, Ufner, & Snow, 2005) or the lack of tangible evidence of the trauma. The finding that sexual abuse was uniquely related to reexperiencing symptoms is consistent with previous research findings (Deblinger et al., 1989) and perhaps is related to the psychobiological characteristics that are specific to sexually abused youth (Putnam & Trickett, 1997). It is surprising that physical abuse did not significantly predict any symptom cluster or overall symptom severity. Possibly, the relationship of a history of physical abuse to posttraumatic stress is better accounted for by the commonly cooccurring and more frequently experienced emotional abuse.

One theoretical framework that may be useful to explain the differential prediction of individual PTSD symptom clusters by type of abuse is that provided by information processing. Information processing theories focus on the manner in which a traumatic event is represented in memory; sensory stimuli and individuals' responses associated with the traumatic event are related to the process by which each event is encoded, stored, and retrieved (Brewin & Holmes, 2003). Therefore, given that subtypes of maltreatment are qualitatively different from one another, it is plausible that the unique processes through which each is represented in memory contribute to the experience of specific symptoms (e.g., reexperiencing symptoms). A complementary explanation for the unique relationships could be provided by researchers of psychobiology; emerging evidence suggests that the investigation of the biological changes and abnormalities that result from trauma experiences will advance the understanding of PTSD (Pitman, 1997).

Limitations

A number of strengths and limitations of this study are worth noting. Our selection process resulted in a heterogeneous group of psychiatrically hospitalized adolescents. The study group was nearly consecutive in nature with primarily gross psychotic or cognitively impaired patients excluded. Thus, our sample is perhaps generalizable to other general adolescent inpatient facilities. Our findings may be limited by our reliance on patient self-report. Although the validity of self-reports in adolescents must be considered cautiously, previous literature (Winegar & Lipschitz, 1999) has shown that psychiatrically hospitalized adolescents' self-reports of maltreatment experiences concur well with best estimate sources consisting of data from police reports, medical records, child protective service reports, and clinician reports. Each of the instruments used here has had previous psychometric and validity checks against other assessment methods, and computer administration methods have previously been empirically found to be useful for assessing sensitive topics such as depression and suicidality (Erdman, Greist, Gustafson, Taves, & Klein, 1987; Fowler, 1985). Nonetheless, future studies would benefit from including additional sources of patient data such as structured diagnostic interviews, life-event assessments, family history data, and psychophysiologic laboratory data.

Patients rated their PTSD symptoms on the basis of the most troubling event reported on the CEVC. In addition to reporting symptoms caused by maltreatment, some participants may have reported symptom severity caused by other events (e.g., witnessing of domestic violence or exposure to community violence). However, on the basis of the findings of Lipschitz and colleagues (1999), adolescent inpatients who experience multiple types of traumatic events report the most distressing events to be physical and sexual abuse; therefore, it is likely that patients were referring to maltreatment as their most upsetting event. Moreover, we contend that the assessment of current posttraumatic stress symptoms and their relationships to maltreatment is of tremendous clinical relevance because multiple traumatic events are experienced by this population and, therefore, are not often experienced in isolation. Additional limitations worth noting are that the severity and number of traumatic events, as well as the time since trauma and duration of the traumatic experiences, were not evaluated and may impact the relationships described. Perhaps the relationship between emotional abuse and posttraumatic stress symptoms is a function of the frequency or duration of emotional abuse experiences. Therefore, we suggest that future studies include these factors to disentangle these complex relationships further. Finally, data were cross-sectional and should be interpreted accordingly.

Summary and Implications for Prevention, Intervention, and Future Research

The findings of this exploratory study have several practical, clinical, and research implications that suggest that a greater level of specificity may be necessary when assessing child abuse, posttraumatic stress, and their correlates (e.g., substance use), as each provides more specific information about how to intervene to reduce the risk of negative outcomes (Runyon et al., 2002). That emotional abuse is a unique predictor of posttraumatic stress symptoms underscores the potential negative impact of this form of maltreatment and argues for more routine clinical assessment of emotional abuse—a construct typically overlooked compared to physical and sexual abuse, but nonetheless one that has clear clinical significance. Treatment programs geared toward helping traumatized youth cope with experiences of physical and/or sexual abuse also should assess for the presence of emotional abuse in order to prevent or treat posttraumatic stress symptoms adequately. The identification of emotional abuse will allow these issues to be integrated in treatment that patients typically receive such as direct service with caseworkers on an inpatient unit or skills training (Katz, Gunasekara, & Miller, 2002) in outpatient therapy. Knowledge that PTSD reexperiencing symptoms have a unique and significant association with sexual abuse can help clinicians in their assessment, stabilization, and treatment of traumatized hospitalized adolescents. For example, teaching the patient to ground herself or himself in the moment when she or he has reexperiencing symptoms could be

quite effective in reducing the severity of symptoms. In addition, treatment programs for sexually abused adolescents may need to provide greater emphasis on the reduction of reexperiencing symptoms in order to achieve overall PTSD symptom relief. Research that examines the effectiveness of specific therapeutic approaches referable to PTSD symptom clusters and abuse subtypes is especially needed.

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